THE CLAIM

We claim:

1. An article for use in healing of wounds and repair of tissue defects, the article comprising:

(a) a flexible membrane having an upper and a lower surface, each surface defining a substrate formed of a biologically-acceptable biodegradable material adapted to be resorbed in use, each substrate having thereon means capable of orienting cell growth comprising a microgeometry formed in said substrates, a microgeometry of said upper surface proportioned to a cell morphology of soft tissue cells and a microgeometry of said lower surface proportioned to a cell morphology of bone tissue cells.

2. The article as recited in Claim 1, in which said microgeometry of each substrate comprises a pattern of grooves and ridges.

3. The article as recited in Claim 2, in which said ridges comprise posts.

4. The article as recited in Claim 1, in which said membrane defines a width of between about 200 and about 500 microns.

5. The article as recited in Claim 3, in which said grooves and ridges upon said upper surface defines a dimension of about 2 to about 10

microns, and those upon said lower surface define a dimension of about 8 to about 25 microns.

6. The article as recited in Claim 5 in which said biodegradable material is selected from a member of the group consisting of as polylactic acid homopolymers, polyglycollic acid co-polymers, combinations thereof, polylactones, polypeptides, polyvinyl alcohols and natural polymers such as collagen and polysaccharides, collagen, Hench's bioglass, fibrinogen and polyimino-carbonate.

7. The article as recited in Claim 1, in which a weight of said resorbed material is in a range of one to five grams/cm^2.

8. The article as recited in Claim 3, in which said lower surface includes osteoconductive chemical properties.

9. The article as recited in Claim 5, in which said lower surface includes osteoconductive chemical properties.

10. The article as recited in Claim 5, in which said membrane comprises means for suturing into or about a wound or bone defect.